

IOWA HIGHWAY RESEARCH BOARD

Minutes of June 28, 2002

Regular Board Members Present

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|---------------|----------------|
| J. Adam | K. Mahoney |
| J. George | M. Nahra |
| R. Gould | J. Selmer |
| L. Greimann | C. Van Buskirk |
| B. Keierleber | W. Weiss |

Alternate Board Members Present

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|-------------------------|-----------|
| T. Fonkert for J. Weber | L. Brehm |
| R. Fosse for J. Byg | C. Marker |
| H. D. Lee for R. Ettema | G. Miller |
| J. Berger | R. Younie |

Board Members With No Representation

D. Julius
R. Krauel

Secretary

M. Dunn

Visitors

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| Ian MacGillivray | <i>Ames</i> |
| Ellen Gaffney | <i>Buchanan County Supervisor</i> |
| Jenny Balis | <i>FHWA</i> |
| Sara Buseman | <i>Iowa Department of Transportation</i> |
| Ed Engle | <i>Iowa Department of Transportation</i> |
| Jim Grove | <i>Iowa Department of Transportation</i> |
| Mike Heitzman | <i>Iowa Department of Transportation</i> |
| Mohammad Mujeeb | <i>Iowa Department of Transportation</i> |
| Ananto Prasetyo | <i>Iowa Department of Transportation</i> |
| Bob Steffes | <i>Iowa Department of Transportation</i> |
| Ken Bergeson | <i>Iowa State University</i> |
| Charles T. Jahren | <i>Iowa State University</i> |
| Scott Schlorholtz | <i>Iowa State University</i> |
| Kejin Wang | <i>Iowa State University</i> |
| David White | <i>Iowa State University</i> |
| Dale Harrington | <i>Iowa State University/CTRE - PCC Center</i> |
| Marian Muste | <i>The University of Iowa/IIHR</i> |
| Vlad Muste | <i>The University of Iowa/IIHR</i> |
| Kwonkyu Yu | <i>The University of Iowa/IIHR</i> |

The meeting was held in the meeting room at Fontana Park, south of Hazleton, Iowa in Buchanan County. The meeting was called to order at 9:00 A.M. by Wade Weiss.

Buchanan County Supervisor Ellen Gaffney welcomed everyone to Fontana Park.

Agenda review/modification

- No modifications.

Approval of the minutes

- Brian Keierleber moved to approve the minutes from the May 31, 2002 meeting with no additions or corrections. Roger Gould seconded. Carried with 11 yes, 0 no, and 0 abstaining.

Review of proposals from 2nd solicitation for FY 02

Identification of Best Practices for the Design, Construction, and Repair of the Bridge Approach Sections

- Competing proposals were received from Dr. Fouad Fanous, Iowa State University and Dr. David White and Dr. Sri Sritharan, Iowa State University/CTRE.
- *No comments or discussion.*
- *Vote to select proposal:*
 - Iowa State University, Dr. Fanous: 0 votes
 - Iowa State University/CTRE, Dr. White and Dr. Sritharan: 11 votes – ***Selected***
 - 1 Abstaining
- *Issues/Concerns that the board would like staff to address:*
 - None
- *Vote to approve:*
 - Mark Nahra moved to accept Dr. White and Dr. Sritharan's proposal with a funding split of 45% Primary, 50% Secondary, and 5% Street. John Selmer seconded. Carried with 12 yes, 0 no, and 0 abstaining.

Determination of the Optimum Base Characteristics for Pavements

- One proposal was received from Dr. David White and Dr. Charles Jähren, Iowa State University/CTRE.
- *No comments or discussion.*
- *Issues/Concerns that the board would like staff to address:*
 - None
- *Vote to approve:*
 - John Selmer moved to accept Dr. White and Dr. Jähren's proposal with a funding split of 65% Primary, 30% Secondary, and 5% Street. Mark Nahra seconded. Carried with 12 yes, 0 no, and 0 abstaining.

Evaluation of Hot Mix Asphalt Moisture Sensitivity Using the Nottingham Asphalt Test Equipment

- Due to the equipment availability, this RFP was sent only to Dr. Brian Coree. He submitted a proposal through Iowa State University/CTRE.
- *General comments on the proposal included the following:*
 - There was clarification as to one Nottingham Asphalt test machine being housed at ISU and a goal of having a second one at the DOT.
 - Looking at the current testing, a more reliable test will be a positive thing. This is a good direction in which to be looking.
- *Issues/Concerns that the board would like staff to address:*
 - None
- *Vote to approve:*
 - John Adam moved to accept Dr. Coree's proposal with a funding split of 65% Primary, 30% Secondary, and 5% Street. Kevin Mahoney seconded. Carried with 12 yes, 0 no, and 0 abstaining.

Proposal, "Materials and Mix Optimization Procedures for PCC Pavements"

- Scott Schlorholtz, Iowa State University, brought this proposal to the Board as requested after the problem statement was presented at the May meeting. He presented an overview of interest for and benefits from this research, from a local level to a national level; the research details, including both field and lab study segments; and the goals, budget, and time frame of the proposed research.
- This unsolicited project was accepted for Board review due to additional funds from another source; FHWA has designated funds of \$153,600 for this project.
- Mark Nahra moved to approve the proposal with the recommended funding split of 50% Primary, 35% Secondary, and 15% Street. John Adam seconded. Carried with 12 yes, 0 no, and 0 abstaining.

Final Report TR-464, "Erosion Control for Highway Applications - A Critical Review of Published Literature"

- Marian Muste, The University of Iowa, reviewed the motivation for the research and the literature review synthesis, and presented the role, structure and demonstration of the Expert System (PC based) that was developed as a result of this project. He concluded with briefly identifying future research needs.
- This final consisted of a written final report and a CD containing the PC based Expert System.
- Mark Nahra moved to approve the final report. Christie Van Buskirk seconded. Carried with 12 yes, 0 no, and 0 abstaining.

Problem Statement, “Erosion Control for Highway Applications - Phase II: Development and Implementation of a Web-Based Expert System for Erosion and Sediment Control Measures”

- Marian Muste, from The University of Iowa, continued from the previous final report presentation with a request for further development of the Expert System. He presented his proposed direction to make the Expert System web-based to allow user access to an updated version continuously, to add quantitative assessment capabilities (additional user categories), to factor in the relationship between ESCM planning/implementation and permitting, and to develop and conduct training for implementation/dissemination.
- The question was raised as to which web server the Expert System would be placed and who would be involved in the continuous updating of the system.
- After discussion, Mark Nahra moved to accept this problem statement as a proposal with the understanding that the issue of housing the Expert System and providing continuing support of the system will be resolved by Mark Dunn, the Research Engineer prior to the work beginning. If it is not resolved satisfactorily, there will be a formal proposal brought back to the Board in September. Recommended funding split of 50% Primary, 40% Secondary, and 10% Street. Jim George seconded. Carried with 12 yes, 0 no, and 0 abstaining.

Final Report, TR-401, “Embankment Quality - Phase III”

- David White, Iowa State University, presented a summary of the objectives and findings of Phases I and II. He then presented the objectives; results from the pilot project, including cost breakdowns; conclusions; recommendations, at the state, county and city levels; and acknowledgements of Phase III of the research. He concluded with his suggestion for the next step of training and implementation, specifically 1-2 training projects per year over the next 3 - 4 years for the state.
- This final consisted of a written final report, a training book and a journal article.
- Roger Gould moved to approve the final report. John Adam seconded. Carried with 13 yes, 0 no, and 0 abstaining.

Fund Balance Report

- Mark Dunn mentioned that percentages have been added to the end of the fund balance report, showing how much of the year’s research has been a result of the new solicitation process and how much has come in non-solicited.

Develop/Finalize RFPs for 1st solicitation for FY 03

- Mark Dunn handed out the 2002 ranked ideas summary sheet and explained the proposed direction for the first two topics.
- The first topic of the development of accelerated testing methods for more accurately predicting the long-term durability and performance potential of concrete so that mix changes made in the field do not detrimentally affect the performance of the pavement, was accompanied by a letter from Dale Harrington from the Center for Portland Cement Concrete Pavement Technology.

This topic is tied with the work discussed in Scott Schlorholtz's proposal, which is already being aggressively pursued.

- The second topic of Earthwork Construction QC/QA, is tied with the work that has been done in TR-401 (presented by David White). With the base work already there, it was felt that it was more appropriate to continue with the same investigators who are familiar with the topic.
- The Board agreed that the direction chosen on the two topics listed above was good.

Development of Object-Oriented Specifications for IADOT and Urban Standards

- It was recommended to add an Information Technology contact to assure that computer/program issues are addressed.

Slope Stability Evaluation and Remediation Techniques for Iowa

- Changes had been made to this RFP since the version that was given to the Board. The revised RFP will be e-mailed to the Board for review.
- The addition of "close to home" successes was recommended.

Economics of Using Calcium Chloride vs. Sodium Chloride for Deicing

- With a terminology difference, deicing and anti-icing will both be listed in this RFP.

Development of Abutment Design Standards for Local Bridge Designs

- No comments

Conversion of Natural Resources Conservation Service TR-55, Hydro-Yardage, and SITES/TR 60 Computer Programs

- With the short time between prioritizing topics and developing the RFPs, there was not enough time to gather sufficient information needed for this RFP.
- It was recommended that Terry Cole, from the DNR office, be contacted due to the DNR's processing time being quicker if information submitted to them is formatted in a certain fashion.
- After more information is collected this RFP will be e-mailed for Board review.

New Business

- The Board discussed the possibility of reorganizing the meeting schedule to allow for a July meeting. Mark Dunn will bring a proposed schedule to the September meeting.
- The requirements for copies on final reports was discussed. Currently, an electronic copy is all that is required. Due to the size of some of the reports, it is preferred that CDs be sent with finals, instead of having them e-mailed.

Wade Weiss adjourned the meeting.

Date of Next Meeting: THE NEXT MEETING WILL BE HELD FRIDAY, SEPTEMBER 27, 2002 AT 9:00 A.M. IN THE LARGE MATERIALS CONFERENCE ROOM AT THE IOWA DOT, CENTRAL COMPLEX, IN AMES, IOWA.

Mark Dunn, IHRB Secretary